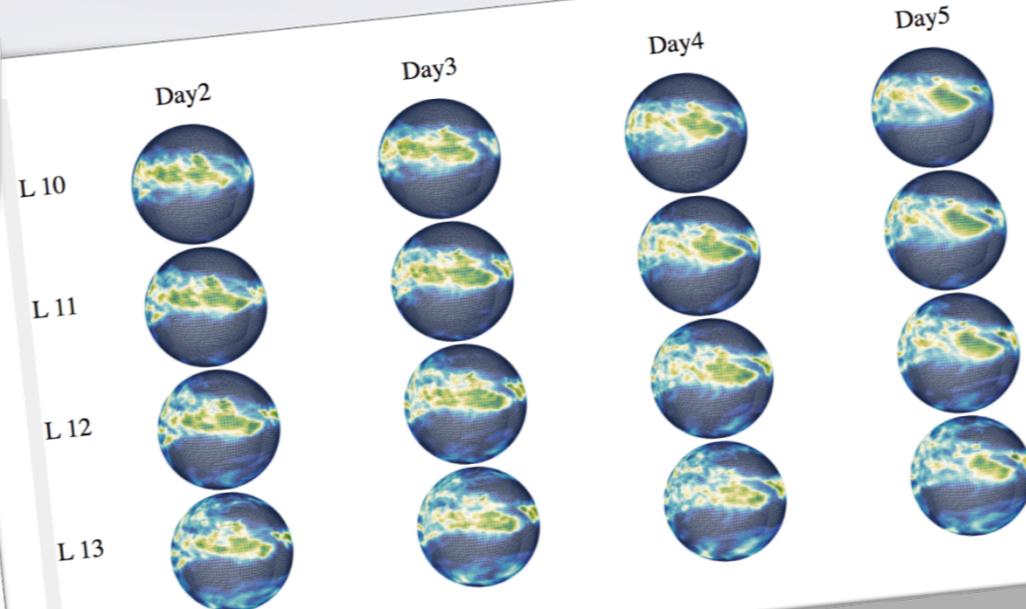


F: High-dimensional Big Data Exploration for Model Tuning and Evaluation

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If you have a lot of simulations and model variables to analyze...

Our visualization experts have a tool that could help you navigate through the high-dimensional space – and save weeks/months of scripting time!



Inconvenience of the AMWG Diagnostics Package

- ⦿ Compares only 2 simulations at a time
- ⦿ Cumbersome to show multiple fields (variables) at the same time
- ☑ Wuyin has a tool to solve these problems, but...
- ⦿ What if I have shorter simulations thus no “proper” climo files?
- ⦿ What if I want to look at a field, a vertical level, or a cross-section that is not included in the current package?

The Wish

- An interactive, lightweight, easy-to-use visualization tool
- To help compare many fields simultaneously
- **Big data:** ~10 TB of model output
- **High-dimensional:**
 - Vertical levels
 - Days/months/seasons
 - Perturbed parameters
 - Different tuning simulations
 - Variables

Demo

- Using prototype at <http://e.jluk.de/VisRaw.html>

Our To-do List

- **Appearances and functionalities**
 - More intuitive layout; more color bars.
 - Additional interactions (e.g., selection of subdomain or cross-section by click-and-drag)
 - Zonal mean and other “usual views”
 - Parametric sensitivity analysis
 - Sharing and reproducibility
- **Practicalities**
 - A mechanism to host tens of TBs of data and run the java-based server
 - Parallel data processing and rendering
- **Any comments and suggestions are welcome!**